



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/747,980

12/31/2003

Peter John Mahon

11848/13

8999

23838 7590 06/07/2007
KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER

KALAFUT, STEPHEN J

ART UNIT

PAPER NUMBER

1745

MAIL DATE

DELIVERY MODE

06/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/747,980	Applicant(s) MAHON, PETER JOHN	
	Examiner Stephen J. Kalafut	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 65-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 65-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 65-66 and 72-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai (JP 10-294,135) in view of Kaschke (US 5,898,933) and Meguro *et al.* (US 6,327,136).

Nagai discloses a hybrid power supply that delivers pulse discharges (section 0001), and which includes a battery cell (2), a type of electrochemical device, which would provide potential between the terminals. Mounted to the outside of the housing is a flexible double layer capacitor (1), which is connected to one terminal, the battery housing, via one collecting plate (15), and the other terminal via a lead (17). Thus, the electrochemical device and the capacitor are connected in parallel. While Nagai does not use the term “supercapacitor” his term “double layer capacitor” has the same meaning. This capacitor is used to provide pulse discharge, as to accomplish the equalization of a load over time. The battery includes a sheath (4), which would be flexible packaging, as well as rigid packaging (25). As seen in drawing 9, the double layer capacitor may be wrapped around the outside of the battery. Nagai does not disclose a rigid housing for containing these electrical devices, a cellular telephone that draws pulsed power therefrom, or electrodes comprising a coating such as carbon, which may be activate carbon. Kaschke discloses a cellular telephone (326) that uses a battery for normal operation (column 6, lines 23-29) and receives pulses of current from capacitors (512, 514). The telephone also includes a rigid housing (figures 2, 3A-3C) for containing all of its electronic components. Because the phone of Kaschke uses pulsed power, which is provided by the power supply of Nagai, and because the mechanical protection provided by the housing of Kaschke, it would be

Art Unit: 1745

obvious to use the power supply of Nagai in the cell phone of Kaschke. Meguro *et al.* disclose a double layer capacitor with two electrodes (1), that each includes an activated carbon layer (1a) on a conductive substrate (1b). See column 6, lines 20-25. Each carbon layer would thus be a coating. Because these electrodes have improved flexibility, processability and reliability (column 2, lines 28-38), and are intended for double layer capacitors, it would be further obvious to use the carbon electrodes of Meguro *et al.* in the double layer capacitor of Nagai, who also desires his capacitor to be flexible. Recitations of how hybrid power supply components are assembled and connected are treated under product-by-process practice, and are not accorded patentable weight, *in re Fitzgerald* 205 USPQ 594.

Claims 68-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai in view of Kaschke and Meguro *et al.* as applied to claims 65 and 66 above, and further in view of either Jennings *et al.* (US 5,612,675) or Bartschi *et al.* (US 5,734,976).

These claims differ from the above combination by reciting a switch that isolates at least one of the battery or the supercapacitor from a common terminal. Jennings *et al.* disclose a device that includes a battery (156) in parallel with a capacitor (C1), where the battery may be disconnected by a switch (153). Bartschi *et al.* disclose a device that includes a battery (B1) in parallel with a capacitor (C7), where the battery may be disconnected by a switch (S3). See figure 2. For either reference, the arrangement allows the battery to be disconnected when not needed (Jennings *et al.*, column 11, lines 13-17, Bartschi *et al.*, column 7, lines 29-33). For this reason, it would be obvious to use a switch as shown by either Jennings *et al.* or Bartschi *et al.* to disconnect the battery when not need, in the hybrid power source of Nagai, where the

Art Unit: 1745

supercapacitor therein includes the carbon electrodes of Meguro *et al.*, and when used in the cellular telephone of Kasche.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 65-85 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original specification does not disclose electrode coatings for the present supercapacitor other than carbon. See page 9, lines 4-5 and page 11, lines 12-13. These claims would thus contain new matter.

Applicant's arguments with respect to claims 65-93 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hirutsaka *et al.* (US 6,402,792) and Takabayashi *et al.* (US 6,282,081) disclose carbon materials for double layer capacitor electrodes.

Art Unit: 1745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286.

The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

sjk



STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1700